

CLAIM AMENDMENTS:

In response to the Office Action dated August 10, 2006, please amend the above-identified application as follows:

Please cancel Claim 67, amend Claim 66, and insert new Claims 68-72 as follows:

66. (Currently Amended) A radiation image pick-up apparatus, ~~having~~
comprising:

an insulating substrate;

a photoelectric conversion circuit section formed on said substrate and comprising a plurality of amorphous semiconductor photoelectric conversion elements, amorphous semiconductor switching elements having output terminals and control terminals, signal wires connected to the output terminals of the switching elements to output parallel signals, and drive wires connected to the control terminals of said switching elements;

a driving circuit section ~~adapted to apply~~ for applying a driving signal to said drive wires; and

a crystalline semiconductor reading circuit section ~~adapted to convert~~
which converts the parallel signals transferred through said signal wires to serial signals to output the serial signals; ~~wherein the photoelectric conversion elements are formed from amorphous semiconductor, and the driving circuit and reading circuit sections are joined~~

~~from crystalline semiconductor, and, wherein said reading circuit section comprises, for each signal line wire, a reset switch for resetting the signal wire, at least one an analog operational amplifier, a buffer amplifier, a transfer switch for sampling an output signal amplified by said a first capacitor being connected in series to an output terminal of the analog operational amplifier for passing through only an alternating component, a second switch for DC restoration of the first capacitor element, a third switch for sampling the output signal amplifiers on the operational amplifier and outputted through the first capacitor, a second capacitor adapted to hold for holding the signal transferred through said transfer third switch, and a reading fourth switch adapted to for successively read sequentially reading out the output signals said buffer amplifier in the form of from the second capacitor as serial signals, and wherein said reset switch is adapted to reset resets said signal wires wire after a sample-and-hold of the output signal from said analog operational amplifier through said transfer third switch, to said capacitor, said reading circuit section further comprising, for each signal line, a capacitor element connected in series in the output wire from the analog operational amplifier, for permitting only alternating-current components to pass, and a reset switch coupled to said capacitor element for DC restoration and wherein the second switch is turned on simultaneously with turning on of the reset switch, and is then turned off at a delay time period after turning off of the reset switch.~~

67. (Cancelled)

68. (New) A radiation image pickup system comprising:

a light source;

a photoelectric conversion circuit section wherein a plurality of photoelectric conversion elements of an amorphous semiconductor, switching elements of an amorphous semiconductor, a plurality of signal wires, and a plurality of drive wires are arranged over an insulating substrate in order to output parallel signals;

a driving circuit section for applying a driving signal to said drive wire;
and

a reading circuit section, formed from a crystalline semiconductor, for converting the parallel signals transferred through said signal wires to serial signals to output the serial signals,

wherein the reading circuit section has, per each signal wire, a first switch to reset of the signal wire, at least one analog operational amplifier, a first capacitor connected in series to the an output terminal of the analog operational amplifier for passing through only an alternating component, a second switch for DC restoration of the first capacitor element, a third switch for sampling the output signal amplified by the analog operational amplifier and outputted through the first capacitor element, a second capacitor element for holding the signal transferred through the third switch, and a fourth switch for sequentially reading the output signals from the second capacitor element as the serial signal,

wherein the first switch resets the signal wire after the sampling and holding of the output signal outputted from the analog operational amplifier through the

first capacitor element by the second capacitor element through the third switch, and wherein the second switch is turned on simultaneously with turning on of the first switch, and then is turned off a delay time period after turning off of the first switch.

69. (New) The radiation image pickup apparatus according to Claim 68, further comprising a wavelength converting member for converting a radiation into light of a wavelength within a range sensed by the photoelectric conversion element.

70. (New) The radiation image pickup apparatus according to Claim 68, wherein the analog operational amplifier has a controllable amplification ratio.

71. (New) The radiation image pickup apparatus according to Claim 68, wherein, in said reading circuit section, said analog operational amplifier has a noise voltage density V_n ($V / \sqrt{\text{Hz}}$) converted at an input terminal portion thereof, and a frequency band B (Hz) sufficient for amplification of a signal from said photoelectric conversion circuit section, and satisfies the relation of $V_n \times \sqrt{B} \geq T_n$ against thermal noise effective voltage T_n (V_{rms}) of said switching element at the input terminal portion of said analog operational amplifier, occurring when the switching element in said photoelectric conversion circuit section is turned on.

72. (New) A method of controlling a radiation image pickup apparatus, wherein the radiation image pickup apparatus comprises:

a photoelectric conversion circuit section wherein a plurality of photoelectric conversion elements of an amorphous semiconductor, switching elements of an amorphous semiconductor, a plurality of signal wires, and a plurality of drive wires, are arranged over an insulating substrate in order to output parallel signals;

a driving circuit section for applying a driving signal to said drive wires; and

a crystalline semiconductor reading circuit section for converting the parallel signals transferred through said signal wires to serial signals to output the serial signals,

wherein the reading circuit section has, per each signal wire, a first switch to reset of the signal wire, at least one analog operational amplifier, a first capacitor being connected in series to the an output terminal of the analog operational amplifier for passing through only an alternating component, a second switch for DC restoration of the first capacitor, a third switch for sampling the output signal amplified by the analog operational amplifier and outputted through the first capacitor, a second capacitor for holding the signal transferred through the third switch, and a fourth switch for sequentially reading the output signal from the second capacitor as the serial signal,

wherein the first switch resets the signal wire after the sampling and holding of the output signal outputted from the analog operational amplifier through the first capacitor by the second capacitor through the third switch, and

wherein the second switch is turned on simultaneously with turning on of the first switch, and then is turned off a delay time period after turning off of the first switch.